Project Baseline Summary Report

Data Source: **EM CDB** Report Number: **GEN-01b**

Operations/Field Office: **Rocky Flats** Print Date: **3/9/2000**

Site Summary Level: **Rocky Flats Environmental Technology Site** HQ ID: **0584**

Project **RF002 / Waste Management Project**

General Project Information

Project Description Narratives

Purpose, Scope, and Technical Approach:

Purpose: The purpose of the Waste Management Project is to provide the resources necessary to accomplish the treatment, storage, and disposal of all wastes currently in inventory and projected to be generated from other Rocky Flats Environmental Technology Site (RFETS or Site) projects. Specific waste types include: Low Level (LL) waste, Low Level Mixed (LLM) waste, Transuranic (TRU) waste, Transuranic Mixed (TRM) waste, hazardous waste (HAZ), and sanitary/uncontaminated (SAN) waste. The Waste Management project will require significant resources to manage these wastes throughout cleanup and closure of the Site, and will be complete when final disposition of all waste has been accomplished. Performance of the Waste Management Project is required to provide a mechanism to facilitate eventual site closure by: (1) providing safe, compliant, interim storage of waste, (2) providing a means for disposition of all wastes generated from clean-up and closure activities thereby minimizing future site liabilities, and (3) ensuring such disposition occurs in a manner that prevents clean-up and closure delays due to lack of adequate waste management solutions.

This project provides for management of wastes generated from all other RFETS projects, and will continue until all site waste has been dispositioned.

Scope: The scope of the Waste Management Project includes safe and compliant management onsite in new and existing storage facilities, safe and compliant treatment of mixed wastes at onsite and offsite locations, and safe and compliant disposal at approved offsite repositories. These three functions (storage, treatment, and disposal) will be performed at varying levels of complexity depending on the particular waste type that requires management. Specific waste types include: (1) Uncontaminated Debris - non-radioactive, non-hazardous debris resulting from the decontamination & decommissioning of site facilities; (2) Sanitary Liquids - non-radioactive, non-hazardous wastewaters resulting from routine operations including lavatory facilities, showers, etc.; (3) Sanitary Solids - non-radioactive, non-hazardous solids resulting from routine office trash, cafeteria waste, etc.; (4) Hazardous - non-radioactive, hazardous waste resulting from routine operations and from deactivation, decontamination, and decommissioning of site facilities; (5) Low Level (LL) - Process - low level radioactive, non-hazardous wastes generated from virtually every project at RFETS; (6) Low Level Mixed (LLM) - Process - low level radioactive, hazardous wastes generated from virtually every project at RFETS; (7) LL - Remediation - low level radioactive, non-hazardous wastes generated from facility decontamination and decommissioning and from environmental clean-up and restoration; (8) LLM - Remediation - low level radioactive, hazardous wastes generated from facility decontamination and decommissioning and from environmental clean-up and restoration; (9) Transuranic Waste (TRU) - transuranic radioactive, non-hazardous wastes generated from routine operation, facility decontamination and decommissioning, and from SNM consolidation and residue processing operations; and, (10) Transuranic Mixed Waste (TRM) - transuranic radioactive, hazardous wastes generated from routine operation, facility decontamination and decommissioning, and from SNM consolidation and residue processing operations.

It should be noted that the scope of this project does not include material that is excavated from a remediation (ER and D&D) activity, treated to specified action levels, and subsequently replaced or used as fill elsewhere. Only those wastes that require further management (i.e., treatment or offsite disposal) as waste are included herein.

In order to effectively manage the current inventory and anticipated future generation, the Waste Management Project has been divided into several subprojects. These include: (1) Sanitary Waste Subproject - includes collection and treatment of sanitary liquids, as well as collection and disposal of sanitary and uncontaminated solids; Additionally, this subproject includes closure of the current landfill and the new landfill. Eventually the work

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scope for the landfill closure will be transferred to the Buffer Zone Clsoure Project RF001 (RF0202) (2) LL/LLM Waste Storage Subproject - includes storage of LL/LLM in existing facilities and, if necessary, in a new Containerized Storage Facility (Project RF-003). This subproject also includes characterization, material movement, and assay activities, as well as miscellaneous waste management operations including medical waste, TSCA waste and hazardous waste management; (3) TRU/TRM Storage Subproject - includes storage of TRU/TRM in existing facilities and, if necessary, in new storage facilities, and includes characterization, loading, and disposal activities and other miscellaneous TRU/TRM management tasks; (4) Waste Disposal Subproject - includes transportation and offsite disposal of LL/LLM, hazardous, uncontaminated, and sanitary solids and residuals from treatment of sanitary liquids. Additionally, this subproject includes waste certification and oversight activities as well as pollution prevention/waste minimization activities and excess chemical management activities; (5) Waste Treatment Subproject - includes the onsite and/or offsite treatment of LL/LLM waste and TRU/TRM waste prior to ultimate offsite disposal. It also includes onsite treatment of organic liquids and on site treatment of process wastewaters; and, (6) Waste Management Projects - includes identification, design, engineering, and construction of new waste management projects. Currently, the only specific project included in this subproject is the Liquid Waste Treatment Upgrades project.

Technical Approach: By the end of the project, all waste will have been dispositioned including current inventory and newly generated waste.

Sanitary/Uncontaminated Waste generated from routine activities and operations and from deactivation, decontamination and decommissioning will be used as fill onsite; or will be collected, staged and disposed offsite at a commercial landfill. Sanitary Liquids will continue to be generated from routine Site activities and will continue to be treated in the existing sewage treatment plant. Hazardous Wastes will continue to be collected and staged in onsite storage facilities for shipment to offsite commercial facilities for treatment, recycle, reclamation and/or disposal. Low Level and Low Level Mixed Process Wastes are currently stored in containers in a variety of locations onsite. Low Level Waste will be shipped to the Nevada Test Site or a commercial facility until FY2006. With the exception of a small volume of classified waste and process waste water, treatment of low level waste is not anticipated. All pondcrete, secondary pondcrete and pondsludge will be shipped to a commercial facility (Envirocare) by December 30, 1999. About 50% of the remaining LLM inventory and the new LLM generation will require treatment prior to disposal. Most, if not all, will be treated offsite. In the event offsite treatment is not available, onsite treatment would occur first through the use of temporary, mobile treatment units. Failing this, fixed onsite treatment units would be required. Much of the existing inventory and future generation of LLM will require disposal at federal facilities (e.g. Hanford) because of radiological constraints at existing commercial facilities. Shipment to such a facility is planned to begin in FY 2001. Initially, LL and LLM Remediation Wastes will be collected and stored temporarily in existing facilities. These wastes will be managed in large containers (e.g. roll offs) to facilitate handling and reduce costs. Beginning in FY 2003 generation will increase dramatically as remediation efforts accelerate. Contingency storage will be required to handle newly generated remediation wastes. Accordingly, new containerized storage facilities are contemplated (see RF-003) to house wastes until they can be shipped offsite for disposal. Such interim storage will occur in a monitored and retrievable fashion to facilitate ultimate offsite treatment and disposal. Future disposal locations will be selected based on acceptance criteria for the waste forms generated. Approximately 50% of the LLM waste generated will require treatment prior to final dispositioning. TRU/TRM Waste is currently stored in containers at a variety of locations onsite while awaiting the opening of WIPP. Consolidation efforts are underway to store TRU/TRM in Buildings 371, 440, 664 and 991. TRU/TRM will be staged and shipped from Building 664 when WIPP opens. At expected generation rates and desired shipping rates increase, additional shipping capacities will be needed beginning in FY2001. Most TRU/TRM will meet WIPP acceptance criteria but approximately 5% will require offsite treatment prior to disposal. These wastes will be sent to offsite treatment location(s) or will be treated onsite as appropriate beginning in FY 2004. All wastes will be dispositioned by the last year of generation (FY 2006).

For all waste types, the storage and disposal functions can be accomplished through the use of industry accepted techniques. Thus, the use of

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emerging technologies is not expected to significantly alter the approaches discussed above. In the areas of characterization and treatment, however, emerging technologies could assist in reducing costs and expediting schedules for these functions. The Site will continue to monitor the progress of commercial and DOE supported waste management technology development activities that could lead to reduced Site cost and risk. Specific waste management technology development activities that could reduce costs and risks associated with Site closure include: expedited characterization and assay techniques for all waste types; size reduction, characterization, and decontamination technologies for D&D wastes; mixed waste treatment technologies for immobilization of contaminants, destruction of hazardous organic contaminants, and separation of hazardous/radioactive contaminants.

Project Status in FY 2006:

This project will be completed.

Post-2006 Project Scope:

No activities are currrently scheduled to occur after 2006 for this project.

Project End State

All wastes will be treated and or disposed in approved and licensed offsite facilities. This includes all LLM, LL, TRU/TRM, sanitary/uncontaminated, and hazardous waste in inventory and generated during site closure. Specific waste volumes are identified on the Closure Projects Metrics table. The LLM and LL waste will have been disposed at both commercial and DOE disposal facilities. The TRU/TRM waste will have been disposed at the WIPP facility. Sanitary/uncontaminated waste will have been disposed at offsite commercial solid waste landfill(s). Hazardous waste will have been treated/disposed at offsite commercial TSD facilities.

The remaining waste management facilities (Buildings 440, 569, 664, 906, and, if acquired, new or retrofitted TRU/TRM staging/shipping facility and, if constructed, the CAMU) will be decommissioned and dismantled for removal from the Site. The D&D of Buildings 440, 569, 664, and 906 are currently planned for completion. An additional follow on project may be required for the remaining TRU/TRM shipping/staging facility. The costs for this follow on project has been submitted as part of the Path to Closure baseline, but the functional location of this project must still be determined. For D&D of the CAMU (if constructed) see RF-003.

Cost Baseline Comments:

Cost estimates are based on assumptions and data developed by the technical groups that have responsibility for managing the work. To the extent practical, all cost estimates are Activity-Based Costs (ABC) and tied directly to a defined and detailed work scope. The estimates are developed at the activity level and are further divided into line items. Line items represent individual resource contributions to activities and are the lowest level of input to the planning system. Once the cost estimate is developed,
each activity is evaluated for cost, technical and schedule risk and the appropriate contingency is determined. Detailed estimates and the basis of estimates (BOEs) for the 2006 Closure Plan are available at the Site.

Safety & Health Hazards:

The principle hazards in the Waste Management Project are radiological, chemical, and other standard industrial hazards. Most of these hazards are

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low level, which will exist throughout the project, and are related to sanitary waste and landfill operations, sewage treatment plant operations, radioactive waste water treatment operations, TRU/TRUM waste treatment and storage (including some new construction), waste disposal (non-TRU), and LLW/LLMW waste treatment and storage (including some new construction), and facility closure-related field activities. These hazards will be analyzed and categorized in accordance with the RFETS Safety and Health Program infrastructure policies, manuals, and procedures. The chemical hazards include TSCA, asbestos, and other hazardous waste.

Safety & Health Work Performance:

This project will be completed within the RFETS Safety and Health Program and within the controls and authorization basis documents defined above to ensure the safety and health of the worker, public and the environment. RFETS has implemented an integrated safety management (ISM) system consisting of the following elements: radiological safety, criticality safety, emergency management, fire safety, industrial hygiene, nuclear safety, occupational medicine, occupational safety, safeguards and security, safety integration, performance oversight, and standards management. Specific methods used to ensure the principles of ISM are followed include: the Integrated Work Control Program (IWCP), Enhanced Work Planning, Job Safety Analysis, Operational Safety Analysis, Health and Safety Plans, Management Assessments, and Operating Procedures. Each of these formalized steps address hazards and control of the hazards and are reviewed by management and the appropriate technical and safety disciplines. RFETS provides site wide infrastructure programs for each functional area to establish consistent safety standards and support for this project. Safety and health success results from the efficient and effective implementation of these programs. This project is responsible for ensuring that the necessary elements of the safety and health programs are incorporated into the specific project plans and implementing documents, and that an appropriate Readiness Determination and Safety Evaluation Screen (SES)/Unreviewed Safety Question Determination (USQD) have been performed.

PBS Comments:

The overall waste management strategy is based on the Site`s ability to effectively dispose wastes offsite. The ideal strategy would have offsite disposal occur at a rate equivalent to annual generation. In many instances, this is not possible due to physical constraints, constrained funding and based on Site priorities (I.e., risk reduction, compliance, mortgage reduction) that consume available funding. As a result, disposal capacity has been adjusted ("leveled") to ensure elimination of inventory plus new generation by the end of the last year of generation. This also provides operational benefits. For the first three years (FY `98, `99, `00), the waste management strategy is focused on shipment/treatment/disposal of approximately 11,000 m3 of pondcrete and saltcrete. Additionally, the Site will focus on shipment of TRU/TRM to WIPP following initiation of operation in FY `98. Beginning in FY `01, the resources previously used for pondcrete/saltcrete will begin to focus on elimination of other LL/LLM waste forms. A key component of this strategy involves the preference to the elimination of LLM over LL when presented with a choice. This preference is based on the fact that continued storage costs associated with LLM are greater than for LL because of increased regulatory concerns. The ideal strategy would involve complete elimination of the LLM generation on an annual basis, however, approximately 50% of newly generated LLM will require treatment prior to disposal. As a result, all LLM is not available for direct disposal as it is generated. Thus, disposal of LL/LLM consists of a combination of both types. Also, beginning in FY `99 it is anticipated that wastes generated from residue stabilization will increase significantly. It is assumed that a large portion of this generation will be "pre-certified" for disposal at WIPP, therefore a significant effort will also be exerted to elimination of this generation. In order to accomplish this effort, additional shipping capacity is being planned. In summary, current disposal profiles are based on: (1) pondcrete/saltcrete in FY `98 - `00, (2) other LL/LLM shipments from FY `01 - `09, (3) minimal TRU/TRM shipments in FY `98, (4) aggressive TRU/TRM shipments from FY `99 - `03, (5) other TRU/TRM shipments from FY `03 - `06, and (6) uncontaminated/sanitary waste shipments as generated. Some LLM and some TRU/TRM will require treatment prior to disposal. The current strategy outlines an approach whereby treatment of LLM (other than pondcrete/saltcrete) will begin in FY `00 and will occur at onsite and offsite locations as economics dictate. FY `00 was selected as

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the date at which resources would be available following pondcrete/saltcrete efforts. For TRU/TRM, offsite treatment is scheduled to begin in FY `04 as resources are made available from other parts of this project. Onsite treatment, consisting of glove washing, repacking, etc. will occur from FY `98 through FY `01 as resources allow. Additionally, in both cases, treatment capacity was "leveled" in order to eliminate current inventory plus new generation by the last year of generation. The balance of the waste management strategy focuses on onsite storage and management of the inventory while awaiting eventual treatment and/or disposal. While additional storage capacity for LL/LLM - Process waste does not appear to be necessary, the need for additional storage for LL/LLM Remediation and TRU/TRM is less certain. As a result, the new TRU/TRM shipping/staging facility could also serve as storage contingency should the need arise. Additionally, Project RF-003 (Containerized Storage Facility) is being pursued for LL/LLM Remediation waste.

"Process" wastes are distinguished from "remediation" wastes by nature of the source of generation. "Remediation" wastes are generated specifically from decontamination and decommissioning of site facilities and from environmental clean-up and restoration activities. "Process" wastes are generated from all other sources. The distinction between "process" and "remediation" is important because "process" wastes are managed under the RCRA framework for corrective actions while "remediation" wastes are managged in accordance with the CERCLA framework. The overall management process is defined in the Rocky Flats Cleanup Agreement. The distinction between "process" and "remediation" for TRU/TRM waste is irrelevant based on the fact that all defense related TRU/TRM (regardless of source) is required to be disposed at the Waste Isolation Pilot Plant.

Baseline Validation Narrative:

Although the 2006 Closure Plan has not been officially validated, it has undergone a high level review by Rocky Flats Field Office (RFFO) and Headquarter personnel. Current independent validation efforts include the following: 1) RFFO has contracted an independent firm to perform a baseline confidence review of the 2006 Closure Plan by the end of FY99, and 2) the Office of Field Management (FM) has contracted a big-five accounting firm to validate the 2006 Closure Plan.

In addition to the 2006 Closure Plan validation efforts, results/recommendations from several previous baseline validation efforts were used in the development of the 2006 Closure Plan. These validations included: 1) The U.S. Army Corps of Engineers (USACE) performed a validation of the Rocky Flats Ten Year Plan in FY97/FY98, 2) Kaiser-Hill contracted Price Waterhouse Coopers, LLP to conduct and independent validation effort of the 2010 Closure Project Baseline that concluded in May of FY99, and 3) Kaiser-Hill engaged Arthur Andersen, LLP to conduct a schedule and cost risk review of the 2010 Closure Project Baseline.

General PBS Information

Project Validated?		**Date Validated:**	
Has Headquarters reviewed and approved project?	No		
Date Project was Added:	12/1/1997		
Baseline Submission Date:			
FEDPLAN Project?	Yes		

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General PBS Information

Drivers:	CERCLA	RCRA	DNFSB	AEA	UMTRCA	State	DOE Orders	Other
	Y	Y	Y	N	N	Y	Y	N

Project Identification Information

DOE Project Manager: Jessie Roberson

DOE Project Manager Phone Number: 303-966-2263

DOE Project Manager Fax Number: 303-966-4775

DOE Project Manager e-mail address: ten.year.plan@rfets.gov

Is this a High Visibility Project (Y/N): Y

Planning Section

Baseline Costs (in thousands of dollars)

	1997-2006 Total	2007-2070 Total	1997-2070 Total	1997	Actual 1997	1998	Actual 1998	1999	2000	2001	2002	2003	2004	2005	2006
PBS Baseline (current year dollars)	942,961	15	942,976	55,016	55,016	60,359	60,359	64,455	85,143	113,901	108,629	117,146	124,710	94,372	119,230
PBS Baseline (constant 1999 dollars)	877,051	13	877,064	55,016	55,016	60,359	60,359	64,455	82,905	108,625	101,467	107,172	111,745	82,822	102,485
PBS EM Baseline (current year dollars)	942,961	15	942,976	55,016	55,016	60,359	60,359	64,455	85,143	113,901	108,629	117,146	124,710	94,372	119,230
PBS EM Baseline (constant 1999 dollars)	877,051	13	877,064	55,016	55,016	60,359	60,359	64,455	82,905	108,625	101,467	107,172	111,745	82,822	102,485

	2007	2008	2009	2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
PBS Baseline (current year dollars)	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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	2007	2008	2009	2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
PBS Baseline (constant 1999 dollars)	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (current year dollars)	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (constant 1999 dollars)	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Baseline Escalation Rates

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
0.00%	0.00%	0.00%	2.70%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%

2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%

Project Reconciliation

Project Completion Date Changes:

Previously Projected End Date of Project: 9/30/2010

Current Projected End Date of Project: 10/2/2006

Explanation of Project Completion Date Difference (if applicable):

Scope Deletion

Efficiencies

New Scope

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Project Reconciliation

Delay in WIPP opening increased the probability of a TRU/TRM waste storage capability shortfall in FY00. The storage space is essential for continued operation of residue processing. In FY98, B/551 conversion from a warehouse to a waste storage facility was approved as an interim solution. Recent DOE decisions necessitated a change in strategy of TRU/TRUM waste from B551 to B446 and Tents 2 and 12.

Continued delays in the opening of the WIPP disposal facility has prevented shipments of TRU/TRM as planned, delaying approximately 447m3 TRU/TRM of FY99 shipments to FY06.

DOE-RFFO directed K-H to store TRU/TRM in existing facilities rather than constructing new ones.

Cost Growth

Science & Technology

Other

The scope of work and end state conditions for the 2006 Plan are similar to the current 2010 Baseline, with a four-year acceleration and a reduction in cost being the two most significant differences. The bottom-up estimate for the 2006 Plan is a $1.65 billion improvement over the comparable activity-based bottoms-up detail estimate for 2010.

To close the Site four years earlier than the current 2010 Baseline requires a strategically different approach. The two key principles followed in preparing the 2006 Baseline were: 1) safely reducing the urgent risks first, and 2) performing work in a sequence that reduces or eliminates operations, maintenance and security costs (often referred to as - mortgage costs) as early as possible. Key to the 2006 Baseline approach is early closure of the secured Protected Area. Closing the Protected Area as soon as possible means that the high security and maintenance costs for this area can be redeployed to accelerate other closure activities. In addition, D&D and SNM risk reduction activities will be performed simultaneously rather than sequentially, supporting both the risk reduction and mortgage reduction principles. The D&D of non- and lower-contaminated facilities and most environmental remediation work will be deferred until later in the project to allow resources to be focused in the areas that result in the greatest reduction in risks and mortgage costs.

Project Cost Estimates (in thousands of dollars)

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars):	1,005,440	**Actual 1997 Cost:**	55,016	**Actual 1998 Cost:**	60,359
Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars):	890,065	**Inflation Adjustment (2.7% to convert 1998 to 1999 dollars):**			24,032
Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	914,097				

Project Cost Changes

	Cost Adjustments	Reconciliation Narratives
Cost Change Due to Scope Deletions (-):		

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Project Reconciliation

Cost Reductions Due to Efficiencies (-):		
Cost Associated with New Scope (+):	168,167	Rebaselining due to acceleration. New scope dollar estimate is not of audit quality.
Cost Growth Associated with Scope Previously Reported (+):		
Cost Reductions Due to Science & Technology Efficiencies (-):		
Subtotal:	1,082,264	
Additional Amount to Reconcile (+):	-320,575	
Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	**761,689**	

Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Ship 6,274 m3 of waste for disposal or recycle.			9/30/1999						Y		
Transfer Liquid Waste Treatment To Mobile Units	RF-0059		1/2/2003		1/2/2003						
Onsite Waste Facility Operations Complete	RF-0087		9/29/2006		9/29/2006						
Acheive B.O for Shipping Module	RF-0121		9/28/2001		9/28/2001						
FY99-M10a Const/Op New Facility For TRU/TRM	RF-0122		9/30/1999	9/30/1999	9/30/1999		Y				
FY99-M2 Ship 670m3 of TRU/TRM to WIPP By 9/30/99	RF-0123		9/30/1999	9/30/1999	9/30/1999		Y				
FY98-M2 Cmpl Construction of New TRU Repack Facl	RF-0125		9/23/1998	9/23/1998	9/23/1998		Y				
FY98-M1 Construct or Demo For TRU / TRM	RF-0126		9/10/1998	9/10/1998	9/10/1998		Y				
WIPP Certification Process Approval	RF-0128		9/30/1998		9/30/1998						
FY00-M6 Ship 1340m3 TRU/TRM to WIPP	RF-0129		10/2/2000	10/2/2000	10/2/2000		Y				
FY00-M1 Cmpl Evacuate Waste Tent 10 & 11	RF-0131		9/29/2000		9/29/2000						
FY99-M1a Cmpl Ship 78% Pond/Salt & Evac Tent 9	RF-0134		9/30/1999	9/30/1999	9/30/1999		Y				
FY99-M3 Ship 1,750m3 of LLW By 9/30/99	RF-0135		9/30/1999	9/30/1999	9/30/1999		Y				

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Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
FY98-M6 Meet/Exceed Previous Year Shipment LLW	RF-0138		6/5/1998	6/5/1998	6/5/1998		Y				
FY00-M5 Ship a Minimum of 1700 m3 of LLW	RF-0139		9/29/2000	9/29/2000	9/29/2000		Y				
Complete LL/LLM Waste Repack Facility	RF-0140		4/29/1998	4/29/1998	4/29/1998		Y				
Complete TSIS Readiness Review	RF-0154		3/28/2002		3/28/2002						
Cmpl B374 Liquid Waste Treatment Operations	RF-0360		1/2/2003		1/2/2003						
FY03-M3 Cmpl Treatment & Offsite Ship OU4 Sludge	RF-0495		9/30/2003		9/30/2003						
FY06-M2 Cmpl Offsite Shipment of TRU/TRM By 2006	RF-0542		10/2/2006		10/2/2006						
Complete PBD 002 - Waste Management Project	RF-OTHE-02		10/2/2006		10/2/2006					Y	
Complete PBD 007 - Waste Treatment Project	RF-OTHE-07		9/29/2006		9/29/2006					Y	
PBD002 Project Start			10/1/1997								

Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critial Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
Ship 6,274 m3 of waste for disposal or recycle.											
Transfer Liquid Waste Treatment To Mobile Units	RF-0059	Y									Kaiser Hill Internal (KHIs) Milestones
Onsite Waste Facility Operations Complete	RF-0087	Y									Kaiser Hill Internal (KHIs) Milestones
Acheive B.O for Shipping Module	RF-0121	Y									Kaiser Hill Internal (KHIs) Milestones
FY99-M10a Const/Op New Facility For TRU/TRM	RF-0122										Rocky Flats Clean-up Agreement (RFCAs) Milestones
FY99-M2 Ship 670m3 of	RF-0123										Rocky Flats Clean-up Agreement (

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Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critial Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
TRU/TRM to WIPP By 9/30/99											RFCAs) Milestones
FY98-M2 Cmpl Construction of New TRU Repack Facl	RF-0125										Rocky Flats Clean-up Agreement (RFCAs) Milestones
FY98-M1 Construct or Demo For TRU / TRM	RF-0126										Rocky Flats Clean-up Agreement (RFCAs) Milestones
WIPP Certification Process Approval	RF-0128	Y									Kaiser Hill Internal (KHIs) Milestones
FY00-M6 Ship 1340m3 TRU/TRM to WIPP	RF-0129										Rocky Flats Clean-up Agreement (RFCAs) Milestones
FY00-M1 Cmpl Evacuate Waste Tent 10 & 11	RF-0131	Y									Rocky Flats Clean-up Agreement (RFCAs) Milestones
FY99-M1a Cmpl Ship 78% Pond/Salt & Evac Tent 9	RF-0134										Rocky Flats Clean-up Agreement (RFCAs) Milestones
FY99-M3 Ship 1,750m3 of LLW By 9/30/99	RF-0135										Rocky Flats Clean-up Agreement (RFCAs) Milestones
FY98-M6 Meet/Exceed Previous Year Shipment LLW	RF-0138										Rocky Flats Clean-up Agreement (RFCAs) Milestones
FY00-M5 Ship a Minimum of 1700 m3 of LLW	RF-0139										Rocky Flats Clean-up Agreement (RFCAs) Milestones
Complete LL/LLM Waste Repack Facility	RF-0140										Rocky Flats Clean-up Agreement (RFCAs) Milestones
Complete TSIS Readiness Review	RF-0154	Y									Kaiser Hill Internal (KHIs) Milestones
Cmpl B374 Liquid Waste Treatment Operations	RF-0360	Y									Kaiser Hill Internal (KHIs) Milestones
FY03-M3 Cmpl Treatment & Offsite Ship OU4 Sludge	RF-0495	Y									Rocky Flats Clean-up Agreement (RFCAs) Milestones
FY06-M2 Cmpl Offsite Shipment	RF-0542	Y									Rocky Flats Clean-up Agreement (

Project Baseline Summary Report

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Operations/Field Office: **Rocky Flats** Print Date: **3/9/2000**

Site Summary Level: **Rocky Flats Environmental Technology Site** HQ ID: **0584**

Project **RF002 / Waste Management Project**

Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critial Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
of TRU/TRM By 2006											RFCAs) Milestones
Complete PBD 002 - Waste Management Project	RF-OTHE-02				Y	Y					Kaiser Hill Internal (KHIs) Milestones
Complete PBD 007 - Waste Treatment Project	RF-OTHE-07				Y	Y				Y	Kaiser Hill Internal (KHIs) Milestones
PBD002 Project Start				Y							PBD002 Project Start

Performance Measure Metrics

Category/Subcategory	Units	1997-2006 Total	2007-2070 Total	1997-2070 Total	Actual Pre-1997	Planned 1997	Actual 1997	Planned 1998	Planned 1999	Planned 2000	Planned 2001	Planned 2002	Planned 2003	Planne 200
RS														
Assess.	NR	1.00	0.00	1.00							1.00			
RS														
Cleanup	NR	1.00	0.00	1.00										1.(
Fac.														
Decom.- Assess.	NF	7.00	0.00	7.00										
Fac.														
Decom- Cleanup	NF	7.00	0.00	7.00										
TRU														
Storage	M3							1,816.00	1,411.00	1,172.00	886.00	622.00	359.00	96.(
TRU														
Ship. to WIPP	M3	14,623.00	0.00	14,623.00	0.00		0.00		100.00	1,390.00	1,980.00	3,383.00	3,400.00	3,249.(
MLLW														
Treatment	M3	0.00	0.00	0.00	0.00		0.00							

Project Baseline Summary Report

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Site Summary Level: **Rocky Flats Environmental Technology Site**

HQ ID: **0584**

Project **RF002 / Waste Management Project**

Performance Measure Metrics

Category/Subcategory	Units	1997-2006 Total	2007-2070 Total	1997-2070 Total	Actual Pre-1997	Planned 1997	Actual 1997	Planned 1998	Planned 1999	Planned 2000	Planned 2001	Planned 2002	Planned 2003	Planne 20(
MLLW														
Storage	M3							16,668.00	9,836.00	4,940.00	4,276.00	2,948.00	1,806.00	836.(
MLLW														
On-Site Disp.	M3	0.00	0.00	0.00	0.00		0.00							
MLLW														
Comm. Disp.	M3	42,160.00	0.00	42,160.00	0.00		0.00		5,724.00	2,564.00	1,076.00	2,619.00	758.00	867.(
MLLW														
Ship to DOE Disp.	M3	22.00	0.00	22.00						22.00				
MLLW														
TBD Disp.	M3	10,000.00	0.00	10,000.00							500.00	1,500.00	2,000.00	1,500.(
LLW														
Storage	M3							142.00	142.00	142.00	142.00			
LLW														
Comm. Disp.	M3	1,314.00	0.00	1,314.00					808.00	400.00	50.00	56.00		
LLW														
Ship to DOE Disp.	M3	139,440.00	0.00	139,440.00	0.00		0.00	2,627.00	2,630.00	4,050.00	4,638.00	18,503.00	28,926.00	20,258.(
Rem. Waste														
Disposed	M3	980.00	0.00	980.00					100.00	340.00	340.00	100.00	100.00	
Tech.														
Deployed	Ntd	2.00	0.00	2.00						2.00				

Category/Subcategory	Units	Planned 2004	Planned 2005	Planned 2006	Planned 2007	Planned 2008	Planned 2009	Planned 2010	Planned 2011 - 2015	Planned 2016 - 2020	Planned 2021 - 2025	Planned 2026 - 2030	Planned 2031 - 2035

Project Baseline Summary Report

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Project **RF002 / Waste Management Project**

RS				
Assess.	NR			
RS				
Cleanup	NR	1.00		
Fac.				
Decom.- Assess.	NF		7.00	
Fac.				
Decom- Cleanup	NF			7.00
TRU				
Storage	M3	96.00	0.00	
TRU				
Ship. to WIPP	M3	3,249.00	550.00	571.00
MLLW				
Treatment	M3			
MLLW				
Storage	M3	836.00		
MLLW				
On-Site Disp.	M3			
MLLW				
Comm. Disp.	M3	867.00	4,382.00	24,170.00
MLLW				
Ship to DOE Disp.	M3			
MLLW				
TBD Disp.	M3	1,500.00	3,500.00	1,000.00
LLW				
Storage	M3			
LLW				
Comm. Disp.	M3			

Project Baseline Summary Report

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Site Summary Level: **Rocky Flats Environmental Technology Site**

HQ ID: **0584**

Project **RF002 / Waste Management Project**

Category/Subcategory	Units	Planned 2004	Planned 2005	Planned 2006	Planned 2007	Planned 2008	Planned 2009	Planned 2010	Planned 2011 - 2015	Planned 2016 - 2020	Planned 2021 - 2025	Planned 2026 - 2030	Planned 2031 - 2035
LLW													
Ship to DOE Disp.	M3	20,258.00	23,904.00	33,904.00									
Rem. Waste													
Disposed	M3												
Tech.													
Deployed	Ntd												

Category/Subcategory	Units	Planned 2036 - 2040	Planned 2041 - 2045	Planned 2046 - 2050	Planned 2051 - 2055	Planned 2056 - 2060	Planned 2061 - 2035	Planned 2066 - 2070	Exceptions	Lifecycle Total
RS										
Assess.	NR									1.00
RS										
Cleanup	NR									1.00
Fac.										
Decom.- Assess.	NF									7.00
Fac.										
Decom- Cleanup	NF									7.00
TRU										
Storage	M3									
TRU										
Ship. to WIPP	M3									14,623.00
MLLW										
Treatment	M3									9,663.00
MLLW										
Storage	M3									

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Print Date: **3/9/2000**

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HQ ID: **0584**

Project **RF002 / Waste Management Project**

Category/Subcategory	Units	Planned 2036 - 2040	Planned 2041 - 2045	Planned 2046 - 2050	Planned 2051 - 2055	Planned 2056 - 2060	Planned 2061 - 2035	Planned 2066 - 2070	Exceptions	Lifecycle Total
MLLW										
On-Site Disp.	M3									6,527.00
MLLW										
Comm. Disp.	M3									41,973.00
MLLW										
Ship to DOE Disp.	M3									22.00
MLLW										
TBD Disp.	M3									10,000.00
LLW										
Storage	M3									
LLW										
Comm. Disp.	M3									506.00
LLW										
Ship to DOE Disp.	M3									142,538.00
Rem. Waste										
Disposed	M3									880.00
Tech.										
Deployed	Ntd									2.00

Release Sites

Site Code	RSF ID	Change Flag	Description	Class/Subclass Name	Planned Assess. Year	Forecast Assess. Year	Actual Assess. Date	Planned Comp. Year	Forecast Comp. Year	Actual Comp. Date	Acc. Year	No Action	Comp. Status	RAD
RFTS	0071		IHSS 114 \ Present Landfill	Waste/Landfills	2001	2001		2004				N		Y

Project Baseline Summary Report

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Operations/Field Office: **Rocky Flats** Print Date: **3/9/2000**

Site Summary Level: **Rocky Flats Environmental Technology Site** HQ ID: **0584**

Project **RF002 / Waste Management Project**

Facility Decommissioning

Site Code	RSF ID	Change Flag	Description	Class/Subclass	Hazard	Plan. Assess. Year	Fore. Assess. Year	Actual Assess. Date	Plan. Deac. Year	Fore. Deac. Year	Actual Deac. Date	Plan. Comp. Year	Fore. Comp. Year	Actual Comp. Date	Acc. Year	No Action	Comp. Status	RAD
RFTS	0015		217 \ NEW SANITARY LANDFILL CELL #1	\		2005						2006				N		
RFTS	0032		280 \ SANITARY LANDFILL SUPPORT FACILITY	\		2005						2006				N		
RFTS	0033		281 \ SAN. LANDFILL LEACHATE VALVE BLDG.	\		2005						2006				N		
RFTS	0034		282 \ LANDFILL F.P. BLDG & 120,000 GAL WTR TK.	\		2005						2006				N		
RFTS	0035		283 \ SANITARY LANDFILL EVAPORATION POND	\		2005						2006				N		
RFTS	0036		284 \ LANDFILL LEACHATE COLL&STOR TK FARM	\		2005						2006				N		
RFTS	0107		S281 \ SANITARY LANDFILL BALE STORAGE	\		2005						2006				N		

Technology Needs

Site Need Code: RF-ER11

Site Need Name: Real-Time Monitoring of Plutonium and Americium in Sewage Treatment Plant Influent

Focus Area Work Package ID:

Focus Area Work Package:

Focus Area:

Agree with Technology Link: Y

Benefits (Cost, Risk Reduction, Both):

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Technology Needs

Related CCP Milestones	Related Waste Streams	Agree?	Change?
	01403: M-03A - Wastewater Treatment Sludges	Y	N
	01402: M-03 - Wastewater	Y	N
	02404: - Routine Ops, Deactivation, Solids, Process Waste	Y	N

Site Need Code: RF-WM03

Site Need Name: Certified Process for TRU/TRM Hydrogen Gas Generation Measurement

Focus Area Work Package ID: MW-05

Focus Area Work Package: Payload Enhancement for Transporting TRU Waste within Restrictive Regulatory Limits

Focus Area: MWFA

Agree with Technology Link: Y

Benefits (Cost, Risk Reduction, Both): Both

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate
Hydrogen Gas Getters		
Flammable Gas Headspace Measurement		

Related CCP Milestones	Related Waste Streams	Agree?	Change?
	02288: -	Y	N
	01388: ER-04C - Sorted D&D TRU	Y	N
	01410: T-01 - Legacy TRU	Y	N
	01420: T-02 - CH TRU New Gen	Y	N

Technology Needs

Site Need Code: RF-WM04

Site Need Name: Improved Sensitivity for Plutonium Non-Destructive Assay (NDA) Instrumentation

Focus Area Work Package ID: MW-05 **Focus Area Work Package:** Payload Enhancement for Transporting TRU Waste within Restrictive Regulatory Limits

Focus Area: MWFA **Agree with Technology Link:** Y

Benefits (Cost, Risk Reduction, Both): Risk Reduction

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate
Nondestructive Waste Assay Using Combined Thermal Epithermal Neutron Interrogation		
Nondestructive Waste Assay Using Gamma-Ray Active and Passive Computed Tomography		

Related CCP Milestones	Related Waste Streams	Agree?	Change?
	01385: ER-04 - D&D Waste (HAZ, LLW, MLLW, TRU/MTRU, Uncontam)	Y	N
	01389: ER-04D - Sorted D&D Uncontaminated to Disposal	Y	N
	01387: ER-04B - Sorted D&D LLM	Y	N
	01386: ER-04A - Sorted D&D LLW	Y	N
	02289: NM-01 - LLW from RFETS-NM-1 to 9	Y	N

Site Need Code: RF-WM07

Site Need Name: Non-Destructive and Non-Invasive Assay of TRU/TRM Drum Headspace for Organic Contamination

Focus Area Work Package ID: MW-05 **Focus Area Work Package:** Payload Enhancement for Transporting TRU Waste within Restrictive Regulatory Limits

Focus Area: MWFA **Agree with Technology Link:** Y

Benefits (Cost, Risk Reduction, Both):

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

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Operations/Field Office: **Rocky Flats** Print Date: **3/9/2000**

Site Summary Level: **Rocky Flats Environmental Technology Site** HQ ID: **0584**

Project **RF002 / Waste Management Project**

Technology Needs

Related CCP Milestones	Related Waste Streams	Agree?	Change?
	01423: T-03 - WIPP Ready TRU	Y	N
	02288: -	Y	N
	01388: ER-04C - Sorted D&D TRU	Y	N
	01410: T-01 - Legacy TRU	Y	N
	01420: T-02 - CH TRU New Gen	Y	N

Site Need Code: RF-WM12

Site Need Name: Bulk Debris Characterization Techniques

Focus Area Work Package ID: MW-01

Focus Area Work Package: Nondestructive Characterization for Treatment, Transportation, and Disposal of MLL and MTRU Waste.

Focus Area: MWFA

Agree with Technology Link: Y

Benefits (Cost, Risk Reduction, Both):

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Related CCP Milestones	Related Waste Streams	Agree?	Change?
	01385: ER-04 - D&D Waste (HAZ, LLW, MLLW, TRU/MTRU, Uncontam)	Y	N

Site Need Code: RF-SNM01

Site Need Name: Measurement of Hydrogen Gas Generation Rates to Justify Increased Drum Wattage Limits

Focus Area Work Package ID: MW-05

Focus Area Work Package: Payload Enhancement for Transporting TRU Waste within Restrictive Regulatory Limits

Focus Area: MWFA

Agree with Technology Link: Y

Benefits (Cost, Risk Reduction, Both): Both

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate
Hydrogen Gas Getters		

Project Baseline Summary Report

Data Source: **EM CDB**

Report Number: **GEN-01b**

Operations/Field Office: **Rocky Flats**

Print Date: **3/9/2000**

Site Summary Level: **Rocky Flats Environmental Technology Site**

HQ ID: **0584**

Project **RF002 / Waste Management Project**

Technology Needs

Flammable Gas Headspace Measurement

Related CCP Milestones	Related Waste Streams	Agree?	Change?
	02288: -	Y	N
	01388: ER-04C - Sorted D&D TRU	Y	N
	01410: T-01 - Legacy TRU	Y	N
	01420: T-02 - CH TRU New Gen	Y	N

Technology Deployments

	Deployment Year		
Deployment Status	**Planned**	**Forecast**	**Actual Date**
Technology Name: Characterization Development			
Potential Deployment	2000		
Technology Name: Characterization of Remote-Handled Waste Drums using High Speed Neutron Detectors			
Potential Deployment	2000		